



# AFCESA A-GRAM



AIR FORCE CIVIL ENGINEER SUPPORT AGENCY

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## QUALIFICATION TRAINING PACKAGE – GLOBAL POSITIONING SYSTEM

### SYNOPSIS:

The AFCESA Training Division, in association with Applied Research Associates, Inc., has recently completed a new contingency training Qualification Training Package (QTP) on the Global Positioning System (GPS). Included in this CD-ROM, version 1, are over 800 graphics and photographs, 13 illustrative video clips, and over 80 review questions with a simulated field exercise to instruct students in the use of the Precise Lightweight Ground Receiver or PLGR.

### GLOBAL POSITIONING SYSTEM, VERSION 1:

This QTP introduces the GPS, the technology and the instrument, to civil engineer personnel in the readiness, explosive ordnance disposal and engineering career fields. The GPS is a space-based navigation and timing system and works in conjunction with 24 navigational satellites. The positional information provided by the hand-held PLGR is available continuously, in all types of weather, to multiple users all over the world.

The program opens with a discussion of the basic operating principles of the PLGR, as well as a list of potential field applications. The GPS was developed by and for the United States military, but the information is provided worldwide. Lesson 1 also discusses security issues that affect the accuracy of the information to unauthorized users.

Lesson 2 continues with a description of the instrument's physical characteristics and a discussion of the multi-functional keypad operations. The Enhanced PLGR

with expanded software capabilities is the primary subject of this QTP; however, the Basic PLGR is also discussed along with its limitations.

The program continues in Lesson 3 with instructions on how to handle premission setup operations. Like small laptop computers, the PLGR is a sophisticated instrument and requires some initializing. If the PLGR is not configured properly up



front or if not enough healthy satellite signals are being received, its effectiveness in the field may be compromised.

Lesson 4 delves into actual field operating procedures. With both positional and navigational capabilities, the PLGR has a number of procedures that must be learned prior to actual field use. These include entering waypoints, defining the original position, and selecting the best navigational modes for the mission.

The PLGR is capable of collecting and storing much positional information that should not fall into the enemy's hands. Lesson 5 details some the PLGR's safety features to prevent this from happening.

Also in this section is information regarding maintenance and troubleshooting of the receiver in an effort to keep it working properly, ready for deployment at a moment's notice.

The first five lessons present an enormous amount of technical information. The final lesson pulls out the practical information and applies it to a simulated field exercise. Information is presented and questions are asked throughout the lesson in an effort to navigate toward an inaccessible downed aircraft.

This QTP will give the student a firm background on use and field applications of the state-of-the-art Precise Lightweight Ground Receiver as a part of the Global Positioning System.

### ACCESSIBILITY:

Additional copies of this and other contingency Qualification Training Packages can be requested from HQ AFCESA/CEOT at the address below or at DSN 523-6181, FAX 523-6488.

Questions regarding this QTP should be directed to SMSgt Randall Skinner or Mr. Ralph Gruber.

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